Neena Joseph Mani

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1. EDUCATION

- PhD, 2012, Atmospheric and Space Science, University of Pune. India.
  Thesis: Role of Climate change on the predictability of Indian monsoon weather and climate.
  Advisor: Prof B.N.Goswami.
- M.Sc., 2006, Meteorology, Cochin University of Science and Technology, Kerala, India.
  (First rank with distinction, CGPA-8.25).
- B.Sc., 2004, Physics, University of Kerala, India. (92.5%).
- ICSE Class X Board Exam, 1999. (93.33%).

2. RESEARCH EXPERIENCE

- **Postdoctoral Researcher (advisor: Duane Waliser) at Jet Propulsion Laboratory, Pasadena, California, through JIFRESSE/UCLA, June 2012–present.**

  Focus areas:
  1) Evaluation of potential and practical predictability of intraseasonal variability in the Intraseasonal Variability Hindcast Experiment (ISVHE).

  2) Evaluation of boreal summer ISV in the " Vertical Structure and diabatic processes of the MJO-Global Model evaluation Project".

  3) Exploring the Monsoon Weather-Climate Fidelity in the NCEP CFS through Improved Cloud-Radiation-Dynamical Representation (National Monsoon Mission project)

- **Research Associate (advisor: Prof. B.N.Goswami), Indian Institute of Tropical Meteorology, June 2011-May 2012.**

  Focus area: Development of a real time monitoring index for the northward propagating monsoon intraseasonal oscillations

- **Graduate student researcher (advisor: Prof. B.N.Goswami), Indian Institute of Tropical Meteorology, February 2007- June 2011.**

  Focus Area: Change in potential predictability of weather and intraseasonal scales under a changing climate.

3. RESEARCH HIGHLIGHTS

- Evaluated the current status of predictability of the Madden Julian Oscillations (MJO) in a dedicated multi-model hindcast framework.
- For the first time, evaluated and explored the predictability of Intraseasonal Variability over the eastern Pacific warm pool.
- Developed a real time monitoring index for the northward propagating monsoon intraseasonal oscillations.
- Brought out the role of planetary scale equatorial Rossby waves in modulating the monsoon in intraseasonal and seasonal time scales.
- Quantified changes in potential predictability in weather and intraseasonal time scales.

4. RESEARCH INTERESTS

- Chaos and Predictability
- Tropical Intraseasonal Variability and Equatorial Waves.
- Atmosphere-ocean coupled processes
- General Circulation Modeling

5 TECHNICAL SKILLS

- Proficiency in programming using FORTRAN, MATLAB, NCL, GrADS and UNIX/LINUX Shell.
- Experience working with the ECHAM5 Global Climate Model.

6. AWARDS AND HONORS

- Best student paper award for the year 2009 from Indian Institute of Tropical Meteorology, India.
- Research scholarship for pursuing PhD from Council for Scientific and Industrial Research (CSIR), Government of India, 2007-2012.
- Selected for the CSIR Program for Youth Leadership in Science (CPYLS) 1999.

7. SELECTED PRESENTATIONS AT CONFERENCES / WORKSHOPS

- "Predictability of Eastern Pacific intraseasonal variability". Climate Diagnostics & Prediction Workshop, NOAA Center for Weather and Climate Prediction, St. Louis, October 20 - 23, 2014.
- "Potential Predictability of the MJO in the ISVHE multimodel framework". AMS 3^{1st} Conference on Hurricanes and Tropical Meteorology, March 31-April ^{4th}, San Diego, CA.
- "Predictability of Tropical Intraseasonal Variability in the intraseasonal Variability Hindcast Experiment (ISVHE)".Climate Diagnostics Predictions Workshop, NOAA Center for Weather and Climate Prediction, Maryland, October 21 - 24, 2013.
- "Potential predictability of MJO in the ISVHE multimodel framework". Tropical Climate dynamics Workshop, Hawaii, 9-13Oct, 2013.
- "Predictability of monsoon intraseasonal oscillations in a warming environment" (Invited). Targeted Training Activity (TTA) on "Intraseasonal Monsoon Predictability and Prediction", IITM, India, January 14 - 25, 2013:
- "Real time monitoring and predicting northward propagating monsoon Intraseasonal oscillations" (Poster).AGU Fall meeting 2012, San Francisco, California, USA.

8. PUBLICATIONS

1**)** Lee, S-S., B. Wang., D. Waliser, **J.M. Neena** and J-Y. Lee 2014: Predictability and prediction skill of the boreal summer Intrasesaonal Oscillation in the Intraseasonal Variability Hindcast Experiment, Climate Dynamics (Under review).

2) **Neena**, **J.M.,** X. Jiang, D. Waliser, J-Y,Lee and B. Wang 2014: Eastern Pacific Intraseasonal Variability: A predictability perspective, Journal of climate (Accepted, In press).

3**) Neena**, **J.M.,** J-Y,Lee, D. Waliser, B. Wang, and X. Jiang 2014: Predictability of Madden-Julian Oscillation in the Intraseasonal Variability Hindcast Experiment (ISVHE), Journal of climate, **27**, 4531–4543. doi: http://dx.doi.org/10.1175/JCLI-D-13-00624.1.

4) Suhas. E, **J.M. Neena**, B.N.Goswami 2013: An Indian Monsoon Intraseasonal Oscillations (MISO) index for real time monitoring and forecast verification, Climate Dynamics , DOI: 10.1007/s00382-012-1462-5.

5) Suhas E, **J.M. Neena**, B.N. Goswami 2012: Interannual variability of Indian summer Monsoon arising from Interactions between Seasonal Mean and Intraseasonal Oscillations, Journal of the Atmospheric Science, 69, 1761–1774. doi: http://dx.doi.org/10.1175/JAS-D-11-0211.1.

6) Goswami B.B**., J.M. Neena**, P. Mukhopadhyay, D.E. Waliser, J. Bendict, E. Maloney, M. Khairoutdinov and B.N. Goswami 2011: Monsoon Intraseasonal Oscillations as simulated by the super parameterized Community Atmospheric Model (SP-CAM), JGR (Atmosphere) doi:10.1029/2011JD015948.

7) **Neena, J. M**., E. Suhas, and B. N. Goswami 2011: Leading role of internal dynamics in the 2009 Indian summer monsoon drought, Journal of Geophysical. Res., 116, D13103, doi:10.1029/2010JD015328.

8**) Neena J.M**. and B.N. Goswami 2010: Extension of potential predictability of Indian summer monsoon dry and wet spells in recent decades, Quarterly Journal of Royal Meteorological Society, 136, 583-592, DOI: 10.1002/qj.595.

9) **Neena Joseph Mani**., E. Suhas, and B.N. Goswami, 2009: Can global warming make Indian monsoon weather less predictable? Geophys. Res. Lett. , 36, L0881, doi:10.1029/2009GL037989.